Teamwork

Air Force, commercial partners develop B-1 digital test station

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Staff Writer

The B-1 Advanced Digital Test Station is one of the most sophisticated pieces of equipment in the Air Force, and the successful testing of the first units at Tinker highlights the team effort between the Air Force and its commercial partners supporting the program.

"This is an important piece of the B-1 effort," said Wendell Wilson, B-1 ADTS Program Manager.

The first B-1 ADTS was delivered to Tinker in early July and the first two test stations have already completed their acceptance testing, he said. The new station is a "commercial-off-the-shelf system" adapted to meet the needs of the B-1 system now and into the future.

Headquarters Air Combat Command and the Oklahoma City Air Logistics Center B-1 System Support Manager identified the need to replace the IATE in 2000. They began working with Warner-Robins Automatic Test System Product Group Manager, and numerous other Air Force Activities and contractors, to find the funding needed to support the new program.

Teradyne, Inc., of North Reading, Mass. was chosen as the contractor to build and deliver the new system.

"It is designed to be flexible for future needs, having open hardware and software architectures that are expandable and tailor-able," he explained. "The test station also has full self-test and calibration verification capability."

The new ADTS will replace the Intermediate Automatic Test Equipment, known as the Digital Test Station and the Digital Analog Video Test Stations. The IATE is obsolete, Mr. Wilson said, and as components failed, they could not be repaired because parts for the stations were no longer being manufactured.

"Reliability was low and it became hard to maintain," he said.

Mr. Wilson said the delivery of the ADTS is just the beginning because there is still much work to be done with the re-hosting of the IATE Test Program Sets to the new ADTS. Three re-hosting

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Air Force photo by Margo Wright

The first test stations of the new B-1 Advanced Digital Test Station have completed their acceptance testing, a team effort between the Air Force and the program's commercial partners. From left are; Michael Shanahan, Teradyne Company program manager; CJ Jones, 76th Software Maintenance Group system administrator; Rick Berger, Teradyne field service engineer; Greg Yort, 76th SMXG engineer; and Dr. Benny Phillips, 327th Combat Systems Sustainment Group system engineer.

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teams from the OC-ALC, Warner-Robins and Boeing will be working to adapt the TPS's to the new stations, which will require several years to complete.

"We're taking the existing software and converting it from one test language to another test language," he said.

A TPS consists of three elements; the test program or test software, the interface hardware that adapts the unit under test to the test station, and the documentation that documents and instructs what the TPS is and how to use it.

The TPS is used to connect and test a line replaceable unit, commonly referred to as the aircrafts "black box," undergoing testing to the ADTS.

The program is scheduled to be complete in 2010, by which time 35 ADTS's will be acquired and fielded at various sites including the OC-ALC, the manufacturer, Boeing and Warner-Robins.

"The end result of this activity will be the fielding of a needed support element that will help sustain the B-1 Mission capability for years to come," Mr. Wilson said.

He added the program could not have achieved this milestone had it not been for the efforts of the Integrated Product Team made up of people from HQ ACC, the B-1 bases, all three ALCs, AFMETCAL, Air Education Training Command, Teradyne and Boeing.

"There's no way this program could be successful without this very collaborative effort," Mr. Wilson said. "The whole integrated Air Force team has put in a lot of effort to get this done. Everyone involved in the program should be congratulated for a job well done."